In the Claims:

Please amend Claims 1, 7, and 13 and add new Claims 20-22 as indicated below. The current status of all claims is as follows:

1. (Currently Amended) A magneto-resistive magnetic sensor, comprising:

a magneto-resistive structure changing a resistance thereof in response to an external magnetic field,

a cap layer, provided on a top surface of said magneto-resistive structure;

C2 a pair of domain-controlling magnetic regions disposed at both lateral sides of said magneto-resistive structure, said domain-controlling magnetic regions having a magnetization pointing in a common direction;

a pair of electrodes provided on said pair of domain-controlling magnetic regions so as to extend on a top surface of said magneto-resistive structure and so as to oppose each other across a central part of said magneto-resistive structure, said electrodes having respective overhang parts extending over said magneto-resistive structure so as to oppose each other with a gap therebetween, said pair of electrodes injecting a sensing current into said magneto-resistive structure primarily via said top surface of said magneto-resistive structure,

wherein each of said overhang parts covers said cap layer on said magneto-resistive structure in such a state that an oxidation-resistant conductive layer is interposed between said cap layer and said overhang ~~part.~~ part,

said pair of domain-controlling magnetic regions having a coercive force exceeding a coercive force of a ferromagnetic layer used in said magneto-resistive structure as a free layer, and

said oxidation-resistant conductive layer having a substantially uniform thickness.

2. (Original) A magneto-resistive magnetic sensor as claimed in claim 1, wherein said oxidation-resistant conductive layer is formed of a metal selected from the group consisting of Au, Pt and Cu.

3. (Original) A magneto-resistive magnetic sensor as claimed in claim 1, wherein said oxidation-resistant conductive layer has a thickness larger than about 1nm.

4. (Original) A magneto-resistive magnetic sensor as claimed in claim 1, wherein said oxidation-resistant conductive layer has a thickness of larger than about 3nm.

5. (Original) A magneto-resistive magnetic sensor as claimed in claim 1, wherein said oxidation-resistant conductive layer has a thickness of smaller than about 10nm.

6. (Original) A magneto-resistive magnetic sensor as claimed in claim 1, wherein said cap layer comprises Ta.

7. (Currently Amended) A magneto-resistive magnetic sensor as claimed in claim 1, wherein said magneto-resistive structure comprises an anti-ferromagnetic pinning layer, a ferromagnetic pinned layer having an exchange coupling with said anti-ferromagnetic pinning layer, ~~a ferromagnetic~~ said ferromagnetic free layer, and a non-magnetic separation layer interposed between said ferromagnetic pinned layer and said ferromagnetic free layer.

8. -12. (Cancelled)

13. (Currently Amended) A magneto-resistive magnetic sensor, comprising:

a magneto-resistive structure changing a resistance thereof in response to an external magnetic field, said magneto-resistive structure having a top surface and two tapered lateral sides;

a cap layer, provided on said top surface of said magneto-resistive structure;

a pair of magnetic regions disposed at both lateral sides of said magneto-resistive structure, said magnetic regions having a magnetization pointing in a common direction;

a pair of electrodes provided on said pair of magnetic regions so as to oppose each other across said magneto-resistive structure, said electrodes having respective overhang parts extending over said top surface of said magneto-resistive structure so as to oppose each other with a gap therebetween, said pair of electrodes injecting a sensing current into said magneto-resistive structure primarily via said top surface of said magneto-resistive structure,

wherein each of said overhang parts covers said cap layer on said magneto-resistive structure in such a state that an oxidation-resistant conductive layer is interposed between said cap layer and said overhang ~~part.~~ part, and

further wherein said oxidation-resistant conductive layer has a substantially uniform thickness.

14. (Previously Presented) A magneto-resistive magnetic sensor as claimed in claim 13, wherein said oxidation-resistant conductive layer is formed of a metal selected from the group consisting of Au, Pt and Cu.

15. (Previously Presented) A magneto-resistive magnetic sensor as claimed in claim 13, wherein said oxidation-resistant conductive layer has a thickness larger than about 1nm.

16. (Previously Presented) A magneto-resistive magnetic sensor as claimed in claim 13, wherein said oxidation-resistant conductive layer has a thickness of larger than about 3nm.

17. (Previously Presented) A magneto-resistive magnetic sensor as claimed in claim 13, wherein said oxidation-resistant conductive layer has a thickness of smaller than about 10nm.

18. (Previously Presented) A magneto-resistive magnetic sensor as claimed in claim 13, wherein said cap layer comprises Ta.

19. (Previously Presented) A magneto-resistive magnetic sensor as claimed in claim 13, wherein said magneto-resistive structure comprises an anti-ferromagnetic pinning layer, a ferromagnetic pinned layer having an exchange coupling with said anti-ferromagnetic pinning layer, a ferromagnetic free layer, and a non-magnetic separation layer interposed between said ferromagnetic pinned layer and said ferromagnetic free layer.

20. (New) A magneto-resistive magnetic sensor as claimed in Claim 13, wherein said pair of magnetic regions has a coercive force exceeding a coercive force of a ferromagnetic layer used in said magneto-resistive structure as a free layer.

21. (New) A magneto-resistive magnetic sensor as claimed in Claim 20, wherein said magnetic regions are domain-controlling magnetic regions.

22. (New) A magneto-resistive magnetic sensor, comprising:

a magneto-resistive structure changing a resistance thereof in response to an external magnetic field,

a cap layer, provided on a top surface of said magneto-resistive structure;

a pair of domain-controlling magnetic regions disposed at both lateral sides of said magneto-resistive structure, said domain-controlling magnetic regions having a magnetization pointing in a common direction;

a pair of electrodes provided on said pair of domain-controlling magnetic regions so as to extend on a top surface of said magneto-resistive structure and so as to oppose each other across a central part of said magneto-resistive structure, said electrodes having respective overhang parts extending over said magneto-resistive structure so as to oppose each other with a gap therebetween, said pair of electrodes injecting a sensing

current into said magneto-resistive structure primarily via said top surface of said magneto-resistive structure,

wherein each of said overhang parts covers said cap layer on said magneto-resistive structure in such a state that an oxidation-resistant conductive layer is interposed between said cap layer and said overhang part, and

said pair of domain-controlling magnetic regions having a coercive force exceeding a coercive force of a ferromagnetic layer used in said magneto-resistive structure as a free layer.